LAND USE, PLANNING, AND INFRASTRUCTURE ACTIONS FOR ISSAQUAH POPULATION (Tier 1 Subareas)	
POLICY/INSTITUTIONAL CONTEXT: ***Jurisdictions:*** Issaquah, King County ***Growth pressures (inside UGA):*** Issaquah, unincorporated King Co (including Issaquah Potential Annexation Areas (PAAs)). ***Percent of basin inside UGA:*** UGA runs through reach 7/8 in Lower Issaquah subarea; UGA also runs through North Fork Issaquah Subarea and East Fork Subarea. 19% of all Tier 1 subareas combined is inside UGA. ***Program/mitigation opportunities:*** Issaquah Basin Plan, TMDL for fecal coliform, Taylor Mountain Forest Stewardship Plan	**SCIENCE CONTEXT**: ***Watershed evaluation rating:*** • *Lower Issaquah* Subarea: Tier 1 - ***Core*** Chinook use; ***Moderate*** watershed function • *Middle Issaquah* Subarea: Tier 1 - ***Core*** Chinook use; ***High*** watershed function • *Upper Issaquah* Subarea: Tier 1 - ***Core*** Chinook use; ***High*** watershed function [Carey, Holder] • *North Fork Issaquah* Subarea: Tier 1 - ***Core*** Chinook use; ***High*** watershed function [need to revisit core designation per City of Issaquah] • *East Fork Issaquah* Subarea: Tier 1 - ***Core*** Chinook use; ***Moderate*** watershed function • *Fifteenmile* Subarea: Tier 1 - ***Core*** Chinook use; ***High*** watershed function ***Watershed evaluation summary:*** See details in Appendix C.

LAND USE ACTIONS FOR ISSAQUAH CREEK BASED ON TECHNICAL RECOMMENDATIONS IN WRIA 8 CONSERVATION STRATEGY

Notes:

1) Technical priorities from the WRIA 8 Conservation Strategy are listed in bold; recommended land use actions are listed for each technical area. Most technical recommendations are interrelated; many land use actions address multiple technical priorities and are cross-referenced.
2) Note that City of Issaquah and King Co. are doing or planning to do many of these actions.
3) See also Appendix D for a menu of land use actions described by criteria, and references on low impact development, critical areas and other land use topics.

In order to maintain existing high relative level of watershed function and hydrologic integrity (especially maintenance of sufficient baseflows), protect existing levels of forest cover, soil infiltrative capacity, wetland areas, and riparian forest and minimize increases in impervious surface and road crossings. Continued implementation of land use policies that protect forests and critical areas (including groundwater sources), and minimize impervious surface will contribute to the protection of critical chinook life stages.

Rural areas:

I1 Consistent with GMA, rural King County should continue to protect resource lands and critical areas, and accommodate modest new growth. King County should continue to provide technical assistance to small forest landowners to encourage forest stewardship and improved forest management through forest stewardship plans.

I2 Support provisions in the recently adopted King County CAO including: clearing restrictions, rural stewardship plans (allows flexibility while protecting and enhancing critical areas), rural aquatic buffers (165 ft), drainage review requirements, and low impact development BMPs. These provisions build on what has already been adopted and implemented through the 1996 *Issaquah Creek Final Basin and Nonpoint Action Plan.* Forest protection standards should account for site geology, soils, topography, and vegetation to maximize retention and infiltration.

I3 Encourage low impact development (LID) through regulations, incentives, and education/training (see also details below under urban areas). Support steward/liaison position to set up training and information sharing among planners, developers, scientists about hands-on aspects of LID BMP implementation, including what works/doesn't work in terms of marketing, technical issues, etc. Local

permitting staff should be trained on LID BMPs, and look into ways to ease process for permitting such practices.

I4 Promote comprehensive approach taken in Bear Creek basin during past decade which included regulatory protections (65% forest cover, 150 ft. stream buffers), King County basin steward doing targeted pubic outreach to streamside landowners, and a range of incentives (including acquisition through WaterWays 2000, current use taxation through PBRS program, conservation easements).

I5 Offer existing and new incentives to continue to protect and restore conditions beyond those which are protected through regulations. Incentives include current use taxation programs (e.g. King County's Public Benefit Rating System – PBRS and Timberland Program), and transferable development rights programs.

I6 Support ongoing funding and organizational arrangements/commitments to insure continuing maintenance of protected lands (upland and riparian) in the long term.

I7 Support recommendations in King County's 2003 *Taylor Mountain Forest Stewardship Plan*. Goals include: protect, enhance and restore ecological systems; restore health and diversity of forest; demonstrate environmentally sound forest management; reduce unneeded roads and limit roads to minimum needed to mange land; provide passive recreational opportunities for public; enhance opportunities for environmental education.

I8 Agricultural recommendations include (see also recommendations below under *restoring riparian function*):

- ✓ Work with horse owners to steward (protect and restore) trails in similar manner proposed for Taylor Mountain Forest. Focus on education and stewardship (e.g., relocating trails out of sensitive areas, volunteering on projects to revegetate trails and roads, including those which have been closed).
- ✓ Encourage new farmers to purchase and use land that is already cleared rather than clear forested lands.
- ✓ Encourage landowners involved with horticulture to adopt and implement farm plans, which address water quality (including sediments, excess nutrients), and fish and wildlife habitat management and restoration.

I9 Recognize importance of enforcement for these and all regulatory recommendations included below. Enforcement could be improved by expanding role of environmental inspectors. Note that public education about why regulations exist is key part of making enforcement more effective.

I10 Aggressive water conservation measures should be employed by water purveyors in the basin (rural and urban) to reduce impacts of water withdrawals on the ecosystem. Water conservation measures should include leak detection and repair, pricing structures that encourage more efficient water use and eliminate subsidies to large water users, water efficiency audits, and rebates for commercial and residential water-efficient plumbing fixtures and appliances.

I11 Potential impacts of Forest Practices Act (FPA) implementation in Issaquah subareas should be evaluated to determine if the FPA is sufficient to maintain hydrologic integrity, water quality, and other habitat conditions that support salmonids; this analysis should be conducted as part of the FPA's adaptive management process.

Urban areas:

I12 Consistent with GMA, Issaquah should continue to absorb most new residential, commercial, industrial growth.

I13 Control new development to minimize impacts on water quality, instream flows, and aquatic buffers (Issaquah is doing or considering many of these):

- ✓ Encourage low impact development (LID) through 3-tiered approach: 1) revise existing codes, e.g., landscape ordinance; 2) provide technical information to developers about on-the-ground examples of what does and does not work in LID approaches; 3) promote demonstration projects through incentives, technical assistance, so that other planners and developers can see hands-on examples
- ✓ Use existing examples to show developers and planners LID techniques (e.g., Issaquah Highlands, King County's three LID demonstration projects currently underway, Seattle's natural drainage program for retrofitting existing neighborhoods)
- ✓ Consider incentives or requirements for LID in outer management zone (outside 100-foot stream buffer) for areas under Shoreline jurisdiction (based on Tri-County proposed inner and outer management zones).
- ✓ Use transferable development rights to shift development to areas which are less sensitive.

- ✓ Support the Urban Forestry Program in King County and the City of Issaquah (including grants and technical assistance) to increase forest cover and forest health of public lands in urban areas.
- ✓ Note that nonconforming uses and regulatory flexibility are discussed below under *restoration of riparian function*.

I14 Recognize importance of enforcement for these and all regulatory recommendations. Improve enforcement by encouraging investigative inspections in addition to complaint driven inspections. Consider having different city staff enforce building-related codes versus environmental regulations, e.g., have a green inspector to enforce CAO, TESC, landscaping ordinance, etc. Green inspector would have different set of skills and training from building inspector. Note that public education about why regulations exist is key part of making enforcement more effective.

Identify and protect headwater areas, wetlands, and sources of groundwater (e.g. seeps and springs) to maintain hydrologic integrity and a temperature regime that supports Chinook life stages. Carey and Holder creeks are believed to be important cold water sources and should be protected.

Rural areas:

I15 Do additional mapping and field monitoring to determine critical groundwater recharge areas to protect.

I16 Maintain hydrologic integrity (including temperature and flows) through a variety of tools including wetland buffer protections, infiltration regulations, 65/10; note most of these provisions are in the recently adopted King County CAO and/or were adopted pursuant to 1996 *Issaquah Creek Final Basin and Nonpoint Action Plan*. Note that the KC CAO riparian buffers may not be adequate for maintenance of cold temperatures in smaller streams; see King County BAS document.

I17 Consider using critical aquifer recharge area (CARA) protections more broadly to protect groundwater recharge for maintaining cold temperatures in fish bearing streams, rather than solely for groundwater quality protection (for domestic water supply).

I18 Consider nominating Carey and Holder Creeks as "Outstanding Resource Waters" under the Clean Water Act. Guidelines for this program are being developed by Dept. of Ecology and reviewed by the Environmental Protection Agency. Nomination could provide additional protection to the basin.

Urban areas:

I19 Support Issaquah's proposed CARA which incorporates groundwater quality protections in the well head capture zones and a broader protection area where infiltration will be required for groundwater recharge. The groundwater recharge area has been mapped based on general soil types and geologic units.

I20 Require adequate infiltration through LID and other stormwater BMPs. Issaquah has adopted King County's stormwater manual, and will automatically adopt future changes to KC's manual.

Protect riparian function (including overbank flows, vegetated streambanks, and groundwater interactions) throughout the basin to protect key Chinook life stages.

Rural areas:

- See recommendations above for *protection of watershed function and hydrologic integrity* in rural areas.

Urban areas:

- See recommendations above for *protection of watershed function and hydrologic integrity* in urban areas.

I21 Address nonconforming structures which are a significant challenge to protecting and restoring riparian function; see details below under *restoration of riparian function*.

I22 Evaluate stream buffer protections in the recently updated King County CAO and revise if necessary. In the Executive proposal, stream buffer protections for Type S and F streams in unincorporated urban areas will provide only minimal protection for large woody debris recruitment and will not protect microclimate and other wildlife functions of the riparian area. Protection for Type N waters in the urban area will not protect the microclimate function of the riparian area and would likely need to be increased from the proposed 65 feet due to increased land use impacts in urban areas. Proposed buffers for Type O waters in the urban area are not consistent with best available science and will provide relatively little protection for most riparian functions. (For Type S and F streams in special urban habitat areas, 165 ft buffer would provide better protection of functions.)

Restore riparian function, including revegetation, to provide sources of LWD to improve channel stability, contribute to pool creation, to reduce peak water temperatures.

Rural areas:

I23 Address encroachment into Native Growth Protection Easements. (See Table 1 for detailed discussion.)

I24 Agricultural recommendations include (see also recommendations above under *protection of watershed function*):

- ✓ King County should continue to implement and enforce livestock ordinance and voluntary farm plans, making highest priority those areas that are most susceptible due to fine soils.
- ✓ Promote use of King County fencing cost-share to keep livestock out of riparian corridor.
- ✓ Partner with and support (e.g., through grants) programs like Horses for Clean Water, Livestock Masters Classes through WSU Cooperative Extension, King County Horse Council, and Backcountry Horsemen; this approach to providing education by other horse owners is most effective.
- ✓ Determine priorities for King County's monies for riparian vegetation protection and restoration. Promote PBRS or other incentives for those farmers willing to increase riparian buffers beyond mandatory 25 feet or to plant riparian areas.

Urban areas:

I25 Nonconforming uses are a tremendous challenge, and the degree of variances and nonconforming uses may limit jurisdictions' ability to achieve the technical goals of the Conservation Strategy. Many existing structures along the creek and tributaries encroach into required stream buffers and are nonconforming with development and environmental regulations. The degree of nonconformity could become even greater as buffers and other riparian protections become more restrictive. In order to decrease the level of nonconformity over the long term (e.g., 50 years), jurisdictions should encourage or require that development come into conformity, depending on the degree of redevelopment. A sliding scale could be applied (e.g., based on redevelopment thresholds), where the greater the degree of redevelopment, the greater the expectation that the development come into compliance.

I26 Continue to tighten regulations affecting riparian buffers, including more restricted application of buffer averaging, fewer allowable uses in buffers (e.g., not allowing stormwater facilities).

I27 Support City's current practice to approve (on a case-by-case basis) administrative variances of development standards such as building setbacks, in order to avoid encroaching into a sensitive area buffer. This may become formalized into policy or regulations.

I28 Encourage or require revegetation and enhancement of riparian buffers where existing buffer vegetation is inadequate (i.e. lacking in tree/shrub vegetation or dominated by non-native invasive species) to protect wetland or stream functions.

I29 Consider flexibility in prescriptive buffer width standards in exchange for stream habitat and buffer enhancement, particularly for redevelopment. However, buffer width reductions for new development even in exchange for riparian enhancement should be discouraged or restricted because one of the main issues for Issaquah Creek is development/encroachment in the floodplain and channel confinement, as identified in the "Stream Inventory and Habitat Evaluation Report" (Parametrix, 2003). Stream buffer enhancement is effective in addressing certain functions such as stream shading, microclimate control, and habitat diversity, but does not adequately address or offset impacts such as channel confinement, floodplain disconnectedness, and loss of channel complexity, which are documented concerns for City of Issaquah streams. Therefore, any granting of regulatory flexibility needs to analyze site-specific tradeoffs – including upland land use impacts to the creek - to insure a net benefit to salmon.

I30 Offer incentives to encourage voluntary revegetation of riparian buffers and/or reconnection of floodplains. Incentives include:

- ✓ Provide expertise (e.g., provide templates for riparian planting plan)
- ✓ Expedite permit process at local, state and federal levels (e.g., allow more restoration activities as shoreline exemptions to make permitting faster and less costly)
- ✓ Provide and streamline applications for tax breaks through programs such as the Public Benefit Rating System (PBRS), if landowner commits to stewardship activities (above and beyond regulatory protection requirements) through permit process. PBRS would likely provide most benefit to/be most appropriate for larger, suburban lots within urban areas.

Protect and improve water quality to prevent adverse impacts from fine sediments, metals (both in sediments and in water), and high temperatures to key Chinook life stages.

Rural areas:

I31 Identify sources and adopt source control BMPs to reduce fine sediments and metals in mainstem and tributaries. Note that sediment sources include bed scouring high flows and construction activities.

I32 Support King County's Phase 1 NPDES municipal stormwater permit as it will likely increase the flow control and water quality design standards included in the 1996 *Issaquah Creek Final Basin and Nonpoint Action Plan,* and include water quality source control standards as well. The permit will also define the extent of County programs necessary to properly apply and enforce these standards and to assure long term maintenance of the facilities/BMPs constructed under these standards.

- Agricultural recommendations: see recommendations listed above for *riparian restoration* and *protection of watershed function*.

I33 Support implementation of actions listed in TMDL for bacteria (Dept. of Ecology's *Issaquah Creek Basin Water Cleanup Plan for Fecal Coliform Bacteria*, 5/04 draft). Summary Implementation Strategy identifies existing and planned activities (regulatory, education, on-site habitat restoration/preservation, monitoring) to address fecal coliform by City of Issaquah, King Co. DNRP, Dept. of Ecology, non-governmental organizations, KCD, others. Five stream segments in basin were listed as impaired for fecal coliform on state's 1998 303(d) list (2 in Issaquah Cr., 1 on North Fork, 2 in Tibbetts). While report focuses on 5 listed segments, it has recommendations for whole basin. Note that detailed implementation strategy will be developed by 8/05.

I34 Support Ecology's development of TMDLs for temperature and dissolved oxygen in next few years. There is a 303(d) listing for temperature on Issaquah Creek located in Section 28, Township 24N, Range 6 East. There are also proposed listings for dissolved oxygen in Issaquah and Tibbetts Creeks on the Draft 2004 303(d) list.

I35 Coordinate with DOE, Seattle-King County Dept. of Public Health, and others to identify and correct on-site septic failures, particularly in riparian areas.

Urban areas:

I36 City of Issaquah has adopted current King County stormwater manual. Support Issaquah's goal to incorporate revised KC stormwater manual in their NPDES phase 2 municipal stormwater permit, and to adopt by code the revised King County manual upon approval by King County Council. The Phase 2 permit may incorporate the TMDL for bacteria, discussed above, by referencing the Detailed Implementation Plan.

I37 Recognize and support state role in development of and compliance with NPDES permits. Support Dept. of Ecology in adding three stormwater staff at NWRO to oversee compliance with industrial and construction general permits in winter of 2004-05.

Adverse impacts from road runoff should be prevented through stormwater best management practices and the minimization of the number and width of roads in the basin. Opportunities to retrofit existing roadways with stormwater treatment BMPs should be pursued.

Rural and urban areas:

I38 Through planning for new roads or road widening projects, assess and recommend ways to minimize impacts on water quality, instream flows and sensitive areas. Low impact development includes BMPs for narrower roads, more pervious surfaces, etc.

I39 Adopt and implement Regional Road Maintenance Endangered Species Act (ESA) Program Guidelines for maintaining existing roads and drainage systems.

I40 Retrofit existing roads to improve water quality treatment. Need BMPs for herbicides and pesticides along roads and power lines.

I41 Work with WSDOT to retrofit drainage systems on I-90 and SR-18 for water quality treatment and spill containment facilities. The threat of hazardous materials spills on I-90 presents a significant water quality threat in the basin.

Provide adequate stream flow to allow upstream migration and spawning. Restoration of seasonal low flows would support pre-spawning holding life stage in Issaquah Creek and in East and North Forks.

Rural and urban areas:

I42 Address the issue of maintaining and restoring instream flows at all levels of government, recognizing that different aspects of the problem are controlled by different government agencies. (See also recommendations above under *headwater protection*.)

I43 Determine extent of unauthorized withdrawals in all sectors (residential, agricultural, commercial, industrial). Develop and/or use existing database on extent of surface and groundwater withdrawals.

I44 Work with Dept. of Ecology on education and enforcement of unauthorized water withdrawals (e.g., un-permitted withdrawals, permitted withdrawals that exceed authorized volumes). Note that the Greater Lake Washington basin is currently closed to new surface water withdrawals.

I45 Certain groundwater withdrawals are exempt from Ecology regulation; these exempt wells include wells serving residences not exceeding 5000 gallons a day (also referred to as 6-packs, or not more than 6 homes on one well), watering of a lawn or garden not exceeding ½ acre. In King County, Seattle-King Co. Dept. of Public Health regulates location and functionality of wells, including exempt wells. Proposed revisions to KC Comprehensive Plan include policies that would limit 6 packs (e.g., no more than one exempt well per development), and encourage users to hookup to existing water systems. [revisit per input from City of Issaquah]

I46 Establish a position (through regional salmon or other funds) to educate property owners about illegal withdrawals in Issaquah Cr. basin. Note concern to keep education and enforcement functions separate.

- See recommendation for water conservation measures above under *maintaining watershed and hydrologic integrity*.

I47 Adopt/enforce stormwater regulations and BMPs to address high and low flows, including forest retention, low impact development, infiltration standards.

I48 Look into other water resource allocation processes that could suggest potential actions for this basin (e.g., 2514 processes elsewhere, state law on water conservation – 1338).

Road crossings should be minimized to maintain floodplain connectivity.

Rural areas:

I49 Limit new development (including roads) in floodplains; develop and apply standards which minimize impacts to salmon.

I50 Continue to buyout structures in floodplain.

Urban areas:

- See recommendations under *restoring riparian function* above.

LAND USE, PLANNING, AND INFRASTRUCTURE ACTIONS FOR LAKE SAMMAMISH (Migratory Tier 1*) 9/30/04 DRAFT*	
POLICY/INSTITUTIONAL CONTEXT: ***Jurisdictions:*** Bellevue, Redmond, Sammamish, Issaquah, King County ***Growth pressures (inside UGA):*** Bellevue, Redmond, Sammamish, Issaquah, King County (including Planned Annexation Areas – PAAs – for Bellevue, Issaquah) ***Percent of basin inside UGA:*** 100% ***Program/mitigation opportunities:*** East Lake Sammamish Basin Plan, other basin plans? SWAMP? State Park redevelopment plans? I-405 mitigation?	**SCIENCE CONTEXT**: ***Watershed evaluation rating:*** • *West Lake Samm.* Subarea: Tier 1 – ***Migratory area***; ***Lower*** watershed function • *East Lake Samm.* Subarea: Tier 1 – ***Migratory area***; ***Moderate*** watershed function ***Watershed evaluation summary:*** Not applicable

LAND USE ACTIONS FOR LAKE SAMMAMISH MIGRATORY AREA BASED ON TECHNICAL RECOMMENDATIONS IN WRIA 8 CONSERVATION STRATEGY

Notes:

4) Technical priorities from the WRIA 8 Conservation Strategy are listed in bold; recommended land use actions are listed for each technical area. The technical recommendations are interrelated; many land use actions address multiple technical priorities.
5) Note that local jurisdictions in these subareas are doing or planning to do many of these actions.
6) See also Appendix D for a menu of land use actions described by criteria, and references on low impact development, critical areas and other land use topics.

Reduce bank hardening by replacing bulkheads and riprap with gently sloped sandy beaches, and protect/restore overhanging riparian vegetation.

I51 Use WRIA 8 Conservation Strategy as one of many "best available science" resources during current and future revisions to critical areas ordinances and Shoreline Master Programs. Recognize that softening or removal of bulkheads is the most important land use action to improve shoreline habitat. In addition, riparian and shoreline buffers should be increased to the extent practicable.

I52 Discourage construction of new bulkheads. Develop guidelines to better assess need for bulkheads and restrict height to that necessary to protect the structure; height increases should be allowable only after appropriate analysis based on fetch, waves, wind velocity and direction, etc. Guidelines should take into account tradeoffs with other environmental impacts (e.g., presence of contaminated soils) and public safety hazards. Note that Bellevue has just completed study to establish science-based OHWM; methodology may be useful to other lakeside jurisdictions.

I53 Many bulkheads continue to be built and repaired without permits; enforcement of existing regulations is critical. [from June 8 project meeting basinwide recommendations]

I54 Most of shoreline is developed, and many existing bulkheads, docks, and other structures are nonconforming with development and environmental regulations. The degree of nonconformity will become even greater as buffers, bulkhead standards, and other shoreline protections become more restrictive. In order to decrease the level of nonconformity over the long term (50-100 years), jurisdictions should encourage or require that development come into conformity, depending on the degree of redevelopment. A sliding scale could be applied, where the greater the degree of redevelopment, the greater the expectation that the development come into compliance.

I55 Encourage salmon friendly shoreline design during new construction and redevelopment of shoreline properties, and properties that border tributaries, by offering regulatory flexibility. However, analysis of

these tradeoffs – including upland land use impacts to the lake - would be necessary to insure a net benefit to salmon. Examples of regulatory flexibility include:

- ✓ Reductions in building setbacks or modest increases in lot coverage or impervious area could be allowed if applicant removes, sets back or softens bulkhead and restores shoreline vegetation.
- ✓ Reduce prescriptive buffer widths if buffers are planted with appropriate native vegetation and a science-based evaluation determines that no negative impact results.
- ✓ Allow or encourage variances from front yard setbacks to avoid allowing variances from back yard setbacks and/or riparian buffers that would cause development to encroach further toward the lake.
- ✓ For developments with more than one lot, increased density or other tradeoffs could be allowed.

I56 Offer incentives to shoreline property owners to voluntarily remove bulkheads, revegetate shoreline, improve habitat at creek mouths, change dock design. Incentives include:

- ✓ Provide expertise (e.g., provide templates for shoreline planting plans, bulkhead design and bioengineering options)
- ✓ Expedite permit process at local, state and federal levels (e.g., allow more restoration activities as shoreline exemptions to make permitting faster and less costly)
- ✓ Provide and streamline applications for tax breaks through programs such as Public Benefit Rating System (PBRS) if landowner commits to stewardship activities (above and beyond regulatory protection requirements) through permit process. PBRS would likely provide most benefit to, and be most appropriate for, larger, suburban lots within urban areas.

I57 Support development of federal/state/local specifications and streamlined permitting for salmon friendly bulkheads (similar to NOAA Fisheries joint effort on pier specifications described below under *dock impacts*.)

I58 Address disincentive in Shoreline Management Act that can discourage shoreline restoration because OHWM can be moved landward as result of removal of a bulkhead, resulting in additional use restrictions placed on adjacent or applicant's property. Local jurisdictions have some ability to limit impact of setback from OHWM, but cannot move the 200-foot shoreline jurisdiction. See Part 6, Appendix D for examples of language jurisdictions can adopt in their Shoreline Master Programs. May require change at state level.

I59 Explore need for regulation and/or education related to impacts of power boat speed near shorelines on bulkheads, shoreline vegetation. Power boats are getting bigger; determine if there is need to set guidance for boat speed within a certain distance of shoreline, depending on the location in the lake. Boats are regulated through a compact among jurisdictions around the lake; speed is set by individual jurisdictions.

I60 Add more "no wake' buoys around the lake shore to protect from wave-induced damage from wakeboards and other boats. [from June 8 project meeting basinwide recommendations]

I61 Offer landscape, bulkhead, or dock contractor training and certification programs.

I62 Support education and demonstration programs so that shoreline property owners can see examples of how salmon friendly bulkheads, docks, etc. actually work, and better understand and accept regulations and incentives related to bulkheads and docks (see public outreach recommendations).

I63 Local jurisdictions should share information among themselves about ordinance language, templates and specifications.

I64 Jurisdictions should continue to apply shoreline restoration, appropriate use of pesticides, native landscaping, etc. in parks, street ends, and other publicly owned property.

I65 Recognize that City of Sammamish is under pressure to develop additional active recreation areas (e.g., sports fields, swimming beaches) and related infrastructure, and at the same time the city wants to protect critical areas and water resources on public lands. Support the city's efforts to develop new parks and manage existing parks to balance active recreation uses with sustainable and low impact development features that protect ecological functions (e.g., salmon friendly shoreline features and docks, pervious pavements for trails, forest preservation).

Outmigration of juvenile Chinook would benefit from improved shoreline connectivity. Reduce impact of docks/piers to deter aggregation of predators (e.g., use of mesh surfaces and/or community docks).

I66 Support joint effort by NOAA Fisheries, WDFW, USACOE, USFWS to develop specifications for new and expanded piers. Goal of this effort is for streamlined federal/state permitting for piers that meet these specifications (affects Corps Section 404, Section 401 water quality certification, HPA). COE is developing Regional General Permit for new and expanded overwater structures in Lake Washington. NOAA Fisheries hopes to work with local jurisdictions to adopt similar permit requirements at local level;

Kitty Nelson met with Lake Sammamish jurisdictions in early July. Local jurisdictions should also provide expedited local permitting if docks meet NOAA Fisheries standards, and if they do not meet the standards, a biological evaluation should be required.

I67 Many docks continue to be built and repaired without permits. Docks are getting bigger as homeowners purchase multiple boats. Enforcement of existing regulations is critical. Dock repairs which exceed a certain threshold should be considered a replacement and be required to meet the NOAA Fisheries standards.

I68 Many docks may already be built below the mean high water line and therefore may be on public property. [from June 8 project meeting basinwide recommendations]

I69 Provide incentives for establishment of community docks or mooring buoys, rather than individual lot docks. See related regulatory/incentive recommendations under *reduce bank hardening* above.

Reconnect and enhance small creek mouths as juvenile rearing areas. Historically these small creeks had sandy deltas at creek mouth and were associated with wetland complexes.

I70 Strictly enforce aquatic and wetland buffer provisions at creek mouths through critical areas ordinances and Shoreline Master Programs.

I71 Restrict barge anchoring at creek mouths, as a condition of shoreline permit. Barges used for dock building and repair are often left anchored for long periods of time near creek mouths; this practice should be eliminated. [from June 8 project meeting basinwide recommendations]

Protect and restore water quality in small tributaries.

I72 Address stormwater impacts from residential and commercial uses through Phase 1 and 2 NPDES permit updates. Note that details on stormwater standards, ranging from Dept. of Ecology's 2001 Stormwater Management Manual to Tri-County guidance, are included in Appendix D. General stormwater recommendations include:

- ✓ Promote low impact/sustainable development along shoreline and throughout tributary sub-areas; see details below.
- ✓ Adopt policies on pesticide use consistent with the January 2004 federal ruling banning certain pesticide use along salmon-bearing streams in the northwest. Application of pesticides should be in accordance with source control best management practices (BMPs) in Ecology's 2001 Stormwater Management Manual.
- ✓ Address high stormwater runoff in urban creeks which drain into Lake Sammamish, through low impact development, on-site stormwater detention for new and redeveloped projects.
- ✓ Address point sources that discharge directly into the lake.

I73 Recognize that development in Sammamish plateau affects health of creeks and lake below; much new development will occur in plateau and should take advantage of low impact development approaches.

I74 Encourage low impact development (LID) through regulations, incentives, and education/training, including:

- ✓ Develop, adopt, and update as needed, local regulations and ordinances that improve the ability of builders to design LID projects, and for local government staff to review and approve those projects. For example, local staff from fire, surface water management, building, and public works departments have different responsibilities related to public and private development, and need to find solutions which can support LID. Local staff should coordinate with Department of Ecology, Puget Sound Action Team, and Washington State Cooperative Extensive Service staff working on LID issues.
- ✓ Analyze local road standards (including standards for pervious concrete) so that they promote, and don't discourage LID, in public and private roads. If LID features are incorporated and proved to be effective, there should be tradeoffs with engineered stormwater facilities.
- ✓ Could offer a PBRS type tax benefit to developments which meet certain LID standards.
- ✓ Provide technical information to developers about on-the-ground examples of what does and does not work in LID approaches; promote demonstration projects through incentives and technical assistance, so that other planners and developers can see hands-on examples. Benefits and tradeoffs (in terms of stormwater management, cost, marketability) need to be illustrated based on real life examples.
- ✓ Monitor existing facilities (e.g., green roofs, permeable pavements, etc.) to improve understanding of and quantify benefits of LID techniques.

- ✓ Existing examples to show developers and planners include King County's three LID demonstration projects currently underway, Seattle's natural drainage program for retrofitting existing neighborhoods, Issaquah Highlands, and Maltby Joint Ventures-Chinook Homes.
- ✓ Investigate and implement low-cost stormwater control retrofit projects in key groundwater infiltration areas and where otherwise feasible to reduce stormwater runoff that contributes to overall pollution levels and scouring of streams due to associated high frequency peak flow events. This includes retrofitting existing properties with amended soils, rain gardens, rain barrels, and other known low cost tools that can be installed without the purchase of new land or development of new stormwater facilities.
- ✓ See Appendix D, Part 6 for references and additional information.

Restore Coho runs in smaller tributaries as control mechanism to reduce cutthroat population.

I75 Protect and restore habitat conditions in tributaries, to protect/restore water quality, flows, riparian function, and forest cover to reduce effects of urbanization, and therefore reduce conditions which would encourage cutthroat. Specific actions are listed below.

I76 Support City of Sammamish goal to integrate salmon conservation planning with related efforts including watershed and basin planning, water quality studies for Lake Sammamish and smaller lakes, implementation of the East Lake Sammamish Basin Plan, etc. Recognize that the salmon element is an important one, but only part of the picture. (Note this applies to all technical areas listed above.)

I77 Adopt critical areas regulations and offer incentives to protect forest cover, wetlands, and headwaters, including:

- ✓ Manage new residential and commercial development to minimize impacts on forest cover, aquatic buffers, water quality, and instream flows, by emphasizing low impact development (see specific low impact development recommendations above under *water quality*).
- ✓ Promote flexible development approaches, including: cluster development in order to preserve large contiguous natural areas; transferable development rights (TDRs) or environmental mitigation banking, to shift development to areas which are less environmentally sensitive and/or to mitigate impacts by restoring areas with highest ecological functions. Could require that new development over a certain size use clustering to preserve a certain portion of open space (e.g., 50% of site). If developer protects more open space, could offer incentives, such as density bonuses.
- ✓ Protect and restore forest cover through tree retention and tree replacement programs, landscaping guidelines, street tree programs, and urban reforestation programs. If a % forest retention standard is applied in some areas (e.g., like King County's 35% or 50% rural clearing restrictions), forest protection standards should take into account soils, substrate, topography, and vegetation in determining the impact of forest retention on hydrologic function.
- ✓ Offer existing and new incentives to continue to protect and restore riparian and upland parcels beyond those that are protected through regulations. Incentives include current use taxation (e.g., Public Benefit Rating system – PBRS), Native Growth Protection Area programs, transferable development rights programs. Protection programs need a stewardship element to ensure management and maintenance of these areas over the long term. Maintenance can be handed over to a local jurisdiction for public management, or if areas are managed privately or by a non-profit organization, standards for review and enforcement should be established. If areas are privately managed, may be necessary to provide an inducement to private entities to provide maintenance (e.g., additional tax break) in addition to education about value of properties and importance of maintenance.
- ✓ Where regulations and incentives are not sufficient, acquire key habitat as current opportunities for protection could be lost forever. Update basin plans to identify highest priority parcels for protection through acquisition or other means.
- ✓ Identify and protect headwater areas, including seeps, springs, wetlands. Do additional mapping and field monitoring to determine critical groundwater recharge areas to protect. Consider using critical aquifer recharge area (CARA) protections more broadly to protect groundwater recharge for maintaining cold temperatures in fish bearing streams, rather than solely for groundwater quality protection for potable water supply.
- ✓ Recognize importance of enforcement for all regulatory recommendations. Note that public education about why regulations exist is key part of making enforcement more effective. Effective enforcement must also include monitoring and adaptive management, so that effectiveness of regulations (and related mitigation projects) is measured, and adjustments are made over time.

I78 Adopt regulations and incentives to protect and restore riparian function, including vegetation and channel complexity, including:

- ✓ Continue to tighten regulations affecting riparian buffers, including larger stream buffers, more restricted application of buffer averaging, fewer allowable uses in buffers (e.g., not allowing stormwater facilities). Could approve administrative variances of development standards (on case-by-case basis) in order to avoid encroaching into a sensitive area buffer.
- ✓ Nonconforming uses are significant challenge in developed areas. Many existing structures along creeks encroach into required stream buffers and are nonconforming with development and environmental regulations. As noted above under *reduce bank hardening*, the degree of nonconformity could become even greater as buffers and other riparian protections become more restrictive, and should be addressed during redevelopment.
- ✓ Encourage or require revegetation and enhancement of riparian buffers where existing buffer vegetation is inadequate (i.e. lacking in tree/shrub vegetation or dominated by non-native invasive species) to restore stream functions. Restoration should include underplanting of conifers in riparian buffers. Consider flexibility in prescriptive buffer width standards in exchange for stream habitat and buffer enhancement, particularly during redevelopment. However, buffer width reductions – even in exchange for riparian enhancement - should be restricted where riparian function has been compromised by development/encroachment in the floodplain and channel confinement. Stream buffer enhancement through revegetation is effective in addressing certain functions such as stream shading, microclimate control, and habitat diversity, but does not adequately address or offset impacts such as channel confinement, floodplain disconnectedness, and loss of channel complexity. Therefore, any granting of regulatory flexibility needs to analyze site-specific tradeoffs – including upland land use impacts to the creek - to insure a net benefit to salmon.
- ✓ Incentives are discussed above for forest protection. In order for incentive and technical assistance programs to be effective, they must receive adequate funding and be supported by technically trained staff. Additional incentives to encourage voluntary revegetation of riparian buffers and/or reconnection of floodplains include: providing expertise (e.g., provide templates for riparian planting plan, assist private landowners with applications for grants to restore habitat), and expediting the permit process at local, state and federal levels.